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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,651	04/02/2004	Rogier H.M. Groeneveld	081468-0309079	8198
909	7590	10/04/2005	EXAMINER	
PILLSBURY WINTHROP SHAW PITTMAN, LLP			SOUW, BERNARD E	
P.O. BOX 10500			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	
			2881	

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/815,651

Applicant(s)

GROENEVELD ET AL.

Examiner

Bernard E. Souw

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Transm. 04/02/2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2, 4-8, 10-22 and 25 is/are rejected.
- 7) ☒ Claim(s) 3, 9, 23 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 01/12/2001.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>04/02/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continuation

1. This application is claiming the benefit of a prior filed nonprovisional application No. 09/758,172 under 35 U.S.C. 120, 121, or 365(c), which has been allowed on 11/28/2003, and issued as USPAT 6,730,920 on 05/04/2004. The required copendency between the current application and the prior application is evidenced by the filing date of the present application, i.e., 04/02/2004, which is prior to the issue date of the parent patent.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119 (a)-(d). The certified copy has been filed in parent Application No. 09/758,172, filed on 11/24/2003.

Information Disclosure Statement

3. Receipt is acknowledged of information disclosure statement (IDS) submitted on 05/05/2004. The submission is in compliance with the provisions of 37 CFR 1.97.

A signed copy of the information disclosure statement is here enclosed.

Preliminary Amendment

4. The Preliminary Amendment filed 05/05/2004 has been entered. The present Office Action is made with all the suggested amendments being fully considered.

Claim 1 has been cancelled.

New claims 2-25 have been added.

Pending in this Office Action are claims 2-25.

Double Patenting

Non-Statutory Type Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Obviousness Type Double Patenting

6. Claim 2 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,730,920. Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitation that the projection system is disposed between the

first object table and the second object table is an obvious variation of any other functional location for the projection system.

7. Claim 4 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,730,920. Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitation that the grating of claim 1 is disposed at a desired height relative to the reference plane is an obvious matter of design choice.

8. Claim 5 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 3 of U.S. Patent No. 6,730,920. Although the conflicting claims are not identical, they are not patentably distinct from each other because their limitations are essentially the same.

9. Claim 6 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 2 of U.S. Patent No. 6,730,920. Although the conflicting claims are not identical, they are not patentably distinct from each other because their limitations are essentially the same.

10. Claim 7 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 4 of U.S. Patent No. 6,730,920. Although the conflicting claims are not identical, they are not patentably distinct from each other because their limitations are essentially the same.

11. Claim 8 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 5 of U.S. Patent No. 6,730,920.

Although the conflicting claims are not identical, they are not patentably distinct from each other because their limitations are essentially the same.

12. Claims 10 and 11 combined (i.e., claim 11 dependent on claim 10) are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 6 of U.S. Patent No. 6,730,920. Although the conflicting claims are not identical, they are not patentably distinct from each other because their combined limitations are essentially the same as claim 6 of the parent patent.

13. Claims 12-18, respectively, are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 7-13, respectively, of U.S. Patent No. 6,730,920. Although the conflicting claims are not identical, they are not patentably distinct from each other because the respective limitations are essentially the same.

14. Claim 19 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 14 of U.S. Patent No. 6,730,920. Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitation of "alignment mark" in the present claim is essentially the same as "reference point" in claim 14 of the parent patent.

15. Claims 20 and 21, respectively, are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 17 and 18, respectively, of U.S. Patent No. 6,730,920. Although the conflicting claims are not

identical, they are not patentably distinct from each other because the respective limitations are essentially the same.

16. Claim 22 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 15 of U.S. Patent No. 6,730,920. Although the conflicting claims are not identical, they are not patentably distinct from each other because their limitations are obvious variations of each other.

17. Claim 25 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 16 of U.S. Patent No. 6,730,920. Although the conflicting claims are not identical, they are not patentably distinct from each other because their limitations are essentially the same.

Indication of Allowable Subject Matter

18. Claims 3, 9, 23 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reasons for Indication of Allowable Subject Matter

19. The following is a statement of reasons for the indication of allowable subject matter:

An Abbe Arm calibration system for use in lithographic apparatus, comprising a first object table holding a patterning device and a second object table holding a

Art Unit: 2881

substrate, a projection system, and a calibration system configured to measure lateral displacements of a reference point in a plane of the object table as a function of tilt, thus allowing the position of the specimen on the object table be accurately determined without an Abbe error, as recited in claims 2 and 22, has not been anticipated nor rendered obvious by any prior art.

Claims 3-18 and 23-25 are also allowed for being either directly or indirectly dependent on claim 2 or claim 22, which have been indicated as being allowable for the reasons recited above.

Claim 19 is allowed for reciting an Abbe Arm calibration system based on a determination of a distance between the surface of the object table and a rotation-invariant point of the object table under various, i.e., as a function of, tilt angle.

Claims 20-21 are also allowed for being either directly or indirectly dependent on claim 19, which has been indicated as being allowable for the reasons recited above.

Relevant Prior Art

20. This prior art made of record and not relied upon is considered pertinent to applicant's disclosure: USPAT 6,331,885 and US PG PUB 2003/0128348, both issued to Nishi, disclose almost the same limitations as claim 1 of the present application. However, Nishi does not teach to measure lateral displacements of a reference point in a plane of the object table as a function of tilt.

Art Unit: 2881


Communications

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard E Souw whose telephone number is 571 272 2482. The examiner can normally be reached on Monday thru Friday, 9:00 am to 5:00 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R Lee can be reached on 571 272 2477. The central fax phone number for the organization where this application or proceeding is assigned is 571 273 8300 for regular communications as well as for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571 272 5993.

bes
September 28, 2005


JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800